

would appear to be without a subgeneric name. I hesitate, however, to propose a new name for this group until the radular characters of *Purpura muricina* Blainville (1832, p. 218) are known, as this is the type species of *Semiricinula* von Martens (1903, p. 95), by monotypy.

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TWO NEW SLUGS (PULMONATA : PHILOMYCIDAE : PHILOMYCUS) FROM KENTUCKY AND VIRGINIA

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PHILOMYCUS BISDOSUS new species. Pages 132, 131.

Description of holotype (University of Michigan, UMMZ. 23065): foot nearly smooth, white except for a very short black area at extreme posterior end; head white, except blue-black tentacles; ground color of mantle (Fig. 1) pale tan marked mid-dorsally by a pair of closely approximated, longitudinal, brown wavy bands, and on each side (about 1/2 way up from ventral

edge of mantle) by a thinner, wavy band of the same color. Posteriorly, the dorsal bands fuse into a single one; anteriorly all 4 bands break-up into small, brown spots; the lower sides of the anterior three-fourths of the mantle is without spots. The lower bands are connected across the mantle at the posterior end, where the body is somewhat depressed. No cheverons or crossbars. Edge of foot pale gray. Pneumatopore slit-like, connected with margin of mantle by a strongly diagonal slit; genital opening on side of head a short distance above level of pneumatopore. Total length contracted 35.5 mm., crawling (Fig. 1) 85.5 mm.; width 8.5 mm.; width of sole 7.0 mm.

Corroborative Description: The genitalia (Page 131, Fig. 2a) and jaw (Fig. 2b) were dissected from a paratype (UMMZ. 230636) 47.3 mm. in contracted length, secured from the Kentucky locality listed below. The jaw, though relatively strongly arched, has practically no anterior projection, and it is only faintly striate. The vagina is quite short and not much inflated. The duct of the seminal receptacle is enlarged and swollen. The dart sac is small, whereas the vas deferens is long, robust. The elongated penis is moderately slender, its retractor muscle also being slender.

Some representative measurements (all in mm.) taken from a series of 6 paratypes (BAB 9511) taken at the Kentucky site are:

<i>Total contracted Length</i>	<i>Width</i>	<i>Width of Sole</i>
15.8	6.0	4.5
23.7	6.5	5.0
35.3	9.0	7.0
35.0	9.5	8.0

The young, somewhat similar to *Philomycus virginicus* Hubricht, are darker brown and more spotted than mature specimens. In all specimens, the pneumatopore slit is set at a definite angle. In the 23.7 mm. specimen, the dorsal bands are very obscure, and in the 35.3 mm. and 35.0 mm. specimens, the flattened tail beneath the mantle is very black. In the largest paratype listed above, there are two very obscure, brownish, diagonal streaks at the anterior end of the mantle. The slime is white, tenaceous.

The name is from French: *bis*, brown: *dos*, back.

Type Locality: the Breaks Interstate Park, Buchanan County, Virginia. The holotype was secured from beneath a moist, de-

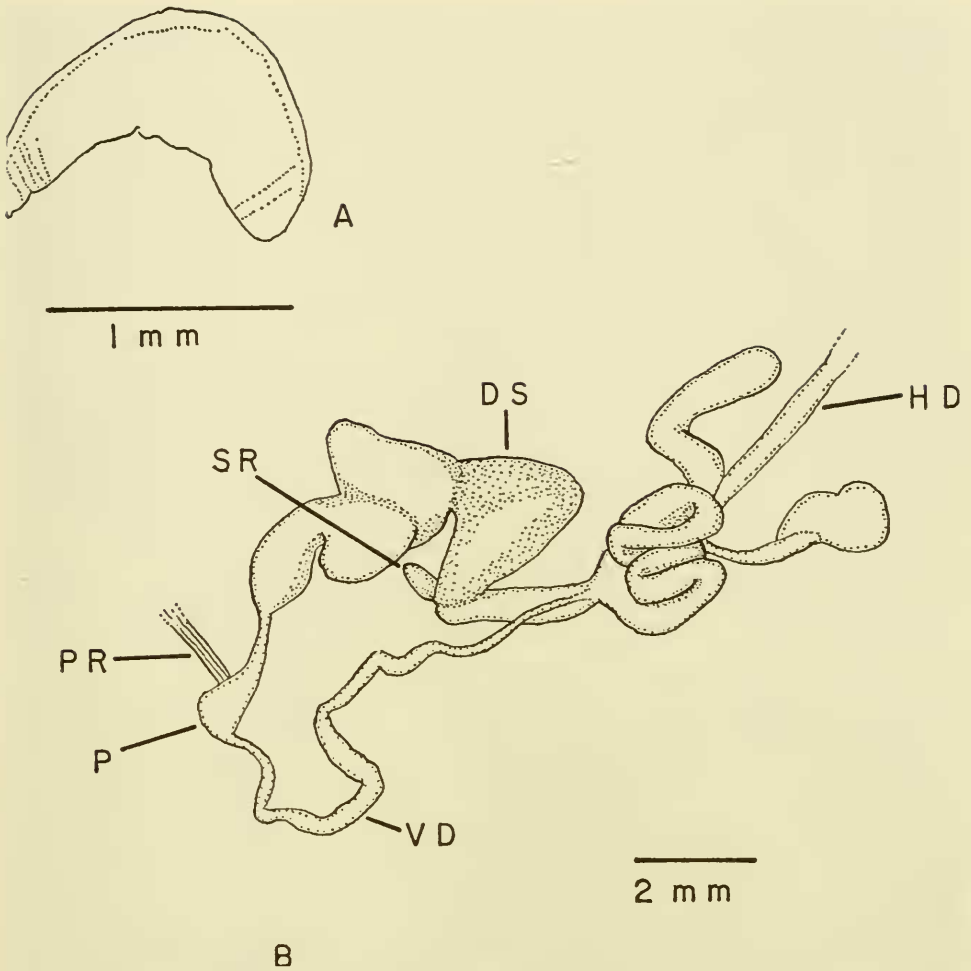


Fig. 4. Paratype of *Philomycus batchi*. A, jaw; B, anterior genitalia; DS, dart sac; HD, hermaphroditic duct; P, penis; PS, penis retractor muscle; SR, seminal receptacle; VD, vas deferens.

caying log on July 23, 1967.

The paratypes discussed above were secured from similar habitats on a hillside overlooking the Russel Branch of the Big Sandy River, just off Highway 80, Pike County, Kentucky on July 23, 1967.

Philomycus bisdosus seems to be most nearly related to *P. virginicus*, which is much darker and in which the color pattern attains the edge of the mantle ventrally. In *P. virginicus*, the slit of the pneumatopore is nearly in line with the opening. The genitalia of the two species also differ.

PHILOMYCUS BATCHI new species.

Pages 132, 129

Description of holotype (Field Museum of Natural History,

FMNH. 155478): mantle glistening black with numerous indistinct black punctae above; black grading to sooty gray mottled with small white blotches laterally, and the lower edges are white anteriorly; sides of foot and sole dead-white; pneumatopore surrounded by a white, irregular halo with a faint streak of gray below it; tail below mantle yellowish, marked on either side by 3 rows of black dashes (not visible in Fig. 3); contracted length 33.2 mm. (Fig. 3), extended length 50.3 mm.; greatest width extended 8.0 mm.

Corroborative Description: The anterior genitalia (Page 129, Fig. 4B) and jaw (Fig. 4A) were dissected from a paratype (BAB 9505) 32.2 mm. in contracted length, collected near Honey Bee, McCreary County, Kentucky. The dart sac is large, triangular, and the penis, which is rather conspicuously inflated near the point of attachment of the vas deferens. Following this, the penis narrows, only to enlarge before contacting the vaginal area. The jaw is weakly ribbed, more strongly medially, and is weakly notched at either corner and bears a very slight anterior projection. In radula, the central denticle is unicuspid and a little broader than those on either side. The 8th lateral develops a small second cusp; the second cusp becomes progressively larger outwardly to about denticle number 30, after which it decreases in size as the main cusp elongates.

Additional paratypes (BAB. 9513) secured with the paratypes of *P. bisdosus* at the Pike County locality. In two of these specimens there is a barely discernible thin, black longitudinal line about one-third the way up from the ventral edge of the mantle. Anteriorly, the mantle is rather profusely spotted with minute black punctae. In one of them, the posterior edges of the foot is tinged with light gray. The contracted measurements of these specimens are:

<i>Length</i>	<i>Width</i>	<i>Width of Sole</i>
29.3	4.3	3.5
28.6	8.7	5.5
40.5	7.5	5.0
40.8	8.0	6.3

Two paratypes (BAB. 9507) taken with 9505 resemble the holotype closely, but mid-dorsally the mantle is dark gray rather than black, and the scattered black spots are slightly larger. These

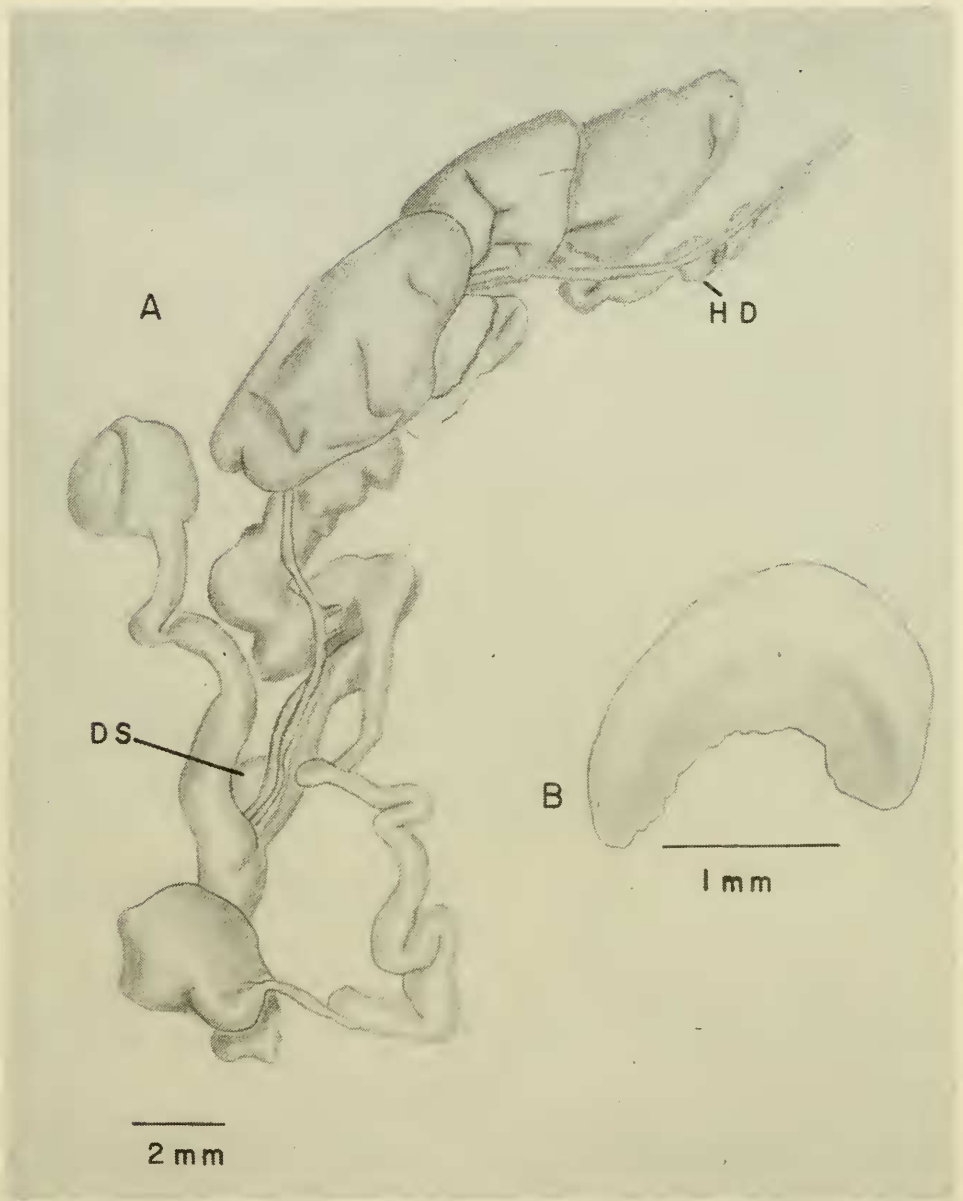
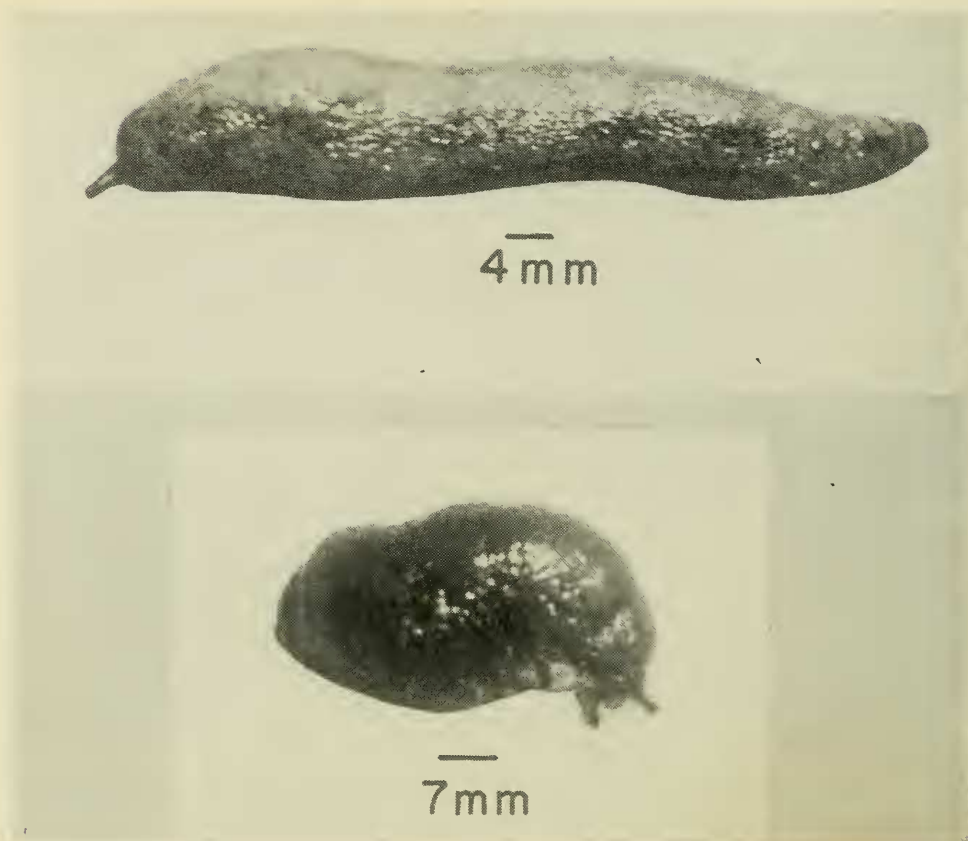


Fig. 2. Paratype of *Philomycus bisdosus*. A, anterior genitalia; B, jaw; DS, dart sac; HD, hermaphroditic duct.

specimens measure (contracted) 33.0 and 40.5 mm. in length, and 8.2 and 10.5 mm. in width, respectively.

Two additional paratypes (BAB. 9627) were collected on May 7, 1967 from the lower slopes of Black Mountain, Fugate Creek ("Slope Hollow"), near Louellan, Harlan County, Kentucky. They are mostly similar to the holotype, differing only in possessing a series of very small, intensely black streaks and punctae



Figs. 1, 5. Holotypes. Upper fig. *Philomycus bisdosus* Branson. Lower fig. *P. batchi* Branson.

along the sides of the mantle. They measure (contracted) 33.0 and 37.5 mm. in length, 7.0 and 6.6 mm. in sole width, respectively.

The species is named for my good friend and collector of the holotype, Dr. Donald Batch.

Type locality: east flood plain of the Kentucky River, opposite Boonesborough State Park, Madison-Clark County line, Kentucky. Found beneath a decaying log with one specimen of *Pallifera ragsdalei* Webb, June 16, 1967.

Philomycus batchi appears to be most closely related to *P. flexuolaris* Rafinesque, which it resembles slightly in color pattern, differing in being nearly solid black rather than brown and in lacking longitudinal stripes. It also differs from *P. carolinianus* (Bosc) in lacking a double row of large, black spots. Internally, the jaw differs slightly from these two species in being very weakly

striate, and in possessing only a very slight anterior projection. In the genitalia, the possession of an apically inflated penis and different arrangement in position of the penis retractor muscle account for additional differences.

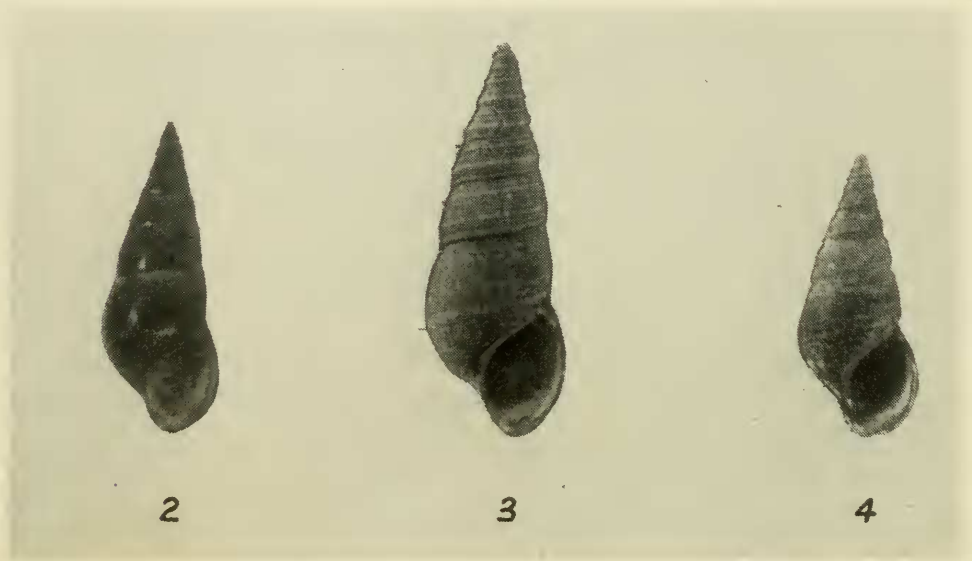


Fig. 2. Typical *G. semicarinata* from Harrison Spring. Fig. 3. Heavily sculptured shell from Harrison Spring. Fig. 4. A toptype of *G. indianensis*. All $2\times$.

GONIOBASIS SEMICARINATA AND *G. INDIANENSIS* IN BLUE RIVER, INDIANA

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Goniobasis semicarinata (Say) inhabits streams of the Ohio River system in the area from Scioto River, Ohio, southwest to Salt River, Kentucky. It is the only species of *Goniobasis* in this area except for possible outlying populations of *G. livescens* (Menke) in southern Ohio. However, *Goniobasis indianensis*, a shell quite similar to *G. semicarinata* was described by Pilsbry (1903) from Blue River at Wyandotte, Indiana. *Goniobasis indianensis* was discussed by Goodrich (1935) and Goodrich and van der Schalie (1944) but these observations indicate some uncertainty about the taxonomic status of the form. Goodrich (1940) failed to include it either as a distinct species or as a synonym for *G. semicarinata* in a revisionary checklist of pleu-